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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/533,768	05/04/2005	Piero Chiarelli	0002263USU/3061	8171

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EXAMINER	
WESTERBERG, NISSA M	
ART UNIT	PAPER NUMBER
1618	
MAIL DATE	DELIVERY MODE
04/06/2009	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/533,768	CHIARELLI ET AL.	
	Examiner	Art Unit	
	Nissa M. Westerberg	1618	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *28 January 2009*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *34 - 36, 38 - 50* is/are pending in the application.

4a) Of the above claim(s) *46 - 50* is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *34 - 36, 38 - 45* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☒ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *04 May 2005* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date *5/4/05*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Election/Restrictions

1. Applicant's election with traverse of group I and a composition containing rifaximin, polyvinyl alcohol and acrylic polymer in the reply filed on January 28, 2009 is acknowledged. The traversal is on the grounds that the amended claims possess a special technical feature over the cited art as WO 99/015210 fails to discloses a composition comprising between 0.5 wt% and 30 wt% rifaximin and biphasic material of solid elastic polymeric matrix comprised of polyvinyl alcohol and liquid water in the pores of the matrix.

This is not found to be persuasive. As amended, the three groups do not share a common technical feature as thus are not so linked as to have unity of invention. The compositions of group I (currently claims 34 – 36, and 38 – 45) do not require the presence of a divalent ion as is required in group III, claims 47 – 50. The compositions of group I and group II (claim 46) is the same but claim 46 requires delivery to the oral cavity, a limitation which is not present in either of the other groups. Thus, the three groups, even in the amended claims, do not share a common technical feature.

Specification

2. The disclosure is objected to because of the following informalities: the

appropriate section headings, as indicated below, are not present in the specification.

Appropriate correction is required.

The following guidelines illustrate the preferred layout for the specification of a utility application. These guidelines are suggested for the applicant's use.

Arrangement of the Specification

As provided in 37 CFR 1.77(b), the specification of a utility application should include the following sections in order. Each of the lettered items should appear in upper case, without underlining or bold type, as a section heading. If no text follows the section heading, the phrase "Not Applicable" should follow the section heading:

(a) TITLE OF THE INVENTION.
(b) CROSS-REFERENCE TO RELATED APPLICATIONS.
(c) STATEMENT REGARDING FEDERALLY SPONSORED RESEARCH OR DEVELOPMENT.
(d) THE NAMES OF THE PARTIES TO A JOINT RESEARCH AGREEMENT.
(e) INCORPORATION-BY-REFERENCE OF MATERIAL SUBMITTED ON A COMPACT DISC.
(f) BACKGROUND OF THE INVENTION.
    (1) Field of the Invention.
    (2) Description of Related Art including information disclosed under 37 CFR 1.97 and 1.98.
(g) BRIEF SUMMARY OF THE INVENTION.
(h) BRIEF DESCRIPTION OF THE SEVERAL VIEWS OF THE DRAWING(S).
(i) DETAILED DESCRIPTION OF THE INVENTION.
(j) CLAIM OR CLAIMS (commencing on a separate sheet).
(k) ABSTRACT OF THE DISCLOSURE (commencing on a separate sheet).
(l) SEQUENCE LISTING (See MPEP § 2424 and 37 CFR 1.821-1.825. A "Sequence Listing" is required on paper if the application discloses a nucleotide or amino acid sequence as defined in 37 CFR 1.821(a) and if the required "Sequence Listing" is not submitted as an electronic document on compact disc).

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

4. The factual inquiries set forth in *Graham* **v.** *John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

5. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

6. Claims 34 – 36, 38 – 42 and 44 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kanios (US 2002/0004065).

Kanios discloses a transdermal delivery composition, which reads on a device for controlled local delivery, comprising active agent, a pharmaceutically acceptable adhesive matrix and a polymeric plastic material that regulates that release rate of the active agents. An adhesive matrix composition, comprised of active agent solubilized or homogenously blended with other ingredients such as crystallization inhibitors can be prepared (¶ [0352]). Crystallization inhibitors include polyvinyl alcohol (PVA), polyvinylpyrrolidone (PVP) or other absorptive agents that possess the capability to absorb and hold water or moisture (¶ [0046]). Among the suitable adhesive materials are the acrylic polymer adhesives (¶ [0353]). The amount of adhesive present depends on the concentration of the active agent but typically is present in amounts from about 5% to about 90% based on the dry weight of the total adhesive matrix composition (¶ [0364]). The amount of active ingredient will vary depending on the particular active agent, the desired therapeutic effect and the desired time span of therapy but preferably ranges from about 0.1% to about 30% by weight based on the dry weight of the total adhesive matrix composition (¶ [0350]). Rifaximin is exemplified as an active ingredient suitable for delivery using the transdermal composition (¶ [0093]). The example compositions contain 5% or 20% (all amounts are weight percents based on the dry weight) polyacrylate polymer and 10% of the crystallization inhibitor PVP (Table II, p 20). The mixture of ingredients has the bioadhesive material homogenously distributed through the polymeric matrix (¶ [[0377]) which is formed into a film (¶ [0372]).

Kanios does not explicitly prepare a composition with rifaximin and PVA.

It would have been obvious to one of ordinary skill in the art at the time of the instant invention to prepare a delivery composition comprising rifaximin, PVA and acrylic polymer. The person of ordinary skill in the art would have been motivated to make those modifications and reasonably would have expected success because Kanios discloses that rifaximin is suitable for inclusion in the composition and PVA is functionally equivalently to the PVP used in the example formulations as ingredients which inhibit crystallization and absorb water or moisture into the composition. The water content will be determined by the solvent used and the drying conditions. Uptake or absorption of water or moisture from the application site into the material depends on the insoluble polymeric plastic material that could affect drug release and is especially important when hydrophobic drugs, such as rifaximin, and/or hydrophilic crystallization inhibitors such as PVP are used (¶ [0014]). Thus, the amount of water present in the pores of the composition

The amount of each ingredient in the composition is a results effective parameters that will affect the physical properties of the final composition and the rate and duration active agent release from the composition. The amount of a specific ingredient in a composition is clearly a result effective parameter that a person of ordinary skill in the art would routinely optimize. Optimization of parameters is a routine practice that would be obvious for a person of ordinary skill in the art to employ and reasonably would expect success. It would have been customary for an artisan of

ordinary skill to determine the optimal amount of each ingredient to add in order to best achieve the desired results.

7. Claims 34 – 36 and 38 – 44 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kanios as applied to claims 34 – 36, 38 – 42 and 44 above, and further in view of Govil et al. (US 4,908,213).

Kanios discloses compositions comprising an active ingredient such as rifaximin, polyacrylic polymers and crystallization inhibitors such as PVA that can contain or absorb water in the amounts recited by the instant claims.

Kanios does not disclose a composition in which the bioadhesive polymer (polyacrylic acid) is applied to the surface of the polymeric matrix.

Govil et al. discloses that pharmaceutically acceptable pressure sensitive adhesives such as acrylic polymers can be used alone or in combination with the active ingredient to prepare an adhesive drug matrix or may be applied to the skin contacting surface of a polymeric matrix (col 3, ln 10 – 18). Suitable polymeric matrix materials include PVA and PVP (col 3, ln 49 – 52).

It would have been obvious to the person of ordinary skill in the art at the time the invention was made to apply the bioadhesive polymer to the surface of the polymeric matrix. The person of ordinary skill in the art would have been motivated to make those modifications and reasonably would have expected success because Govil et al. discloses drug delivery compositions of acrylic polymers with a matrix material of PVA or PVP, as Kanios describes, and describes two alternative geometries for the final

composition. The ingredients can either by homogenously mixed, as in Kanios and Govil et al., or the polyacrylic acid material is applied to the surface of the polymeric matrix, as in Govil et al.

8. Claims 34 – 36, 38 – 42, 44 and 45 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kanios as applied to claims 34 – 36, 38 – 42 and 44 above, and further in view of Wharton (US 6,194,455).

Kanios discloses compositions comprising an active ingredient such as rifaximin, polyacrylic polymers and crystallization inhibitors such as PVA that can take up or absorb water in the amounts recited by the instant claims.

Kanios does not disclose a composition containing rifaximin in combination with another antibiotic and/or an anti-inflammatory and/or pain reliever and/or anesthetic drug.

Wharton discloses a topical medicament comprising sucralfate, a topical anesthetic and an antibiotic for application to skin ulcers (skin wounds; col 1, ln 44 – 49)

It would have been obvious to one of ordinary skill in the art at the time of the instant invention to prepare a topical, transdermal composition as taught by Kanios and to include additional active agents. The person of ordinary skill in the art would have been motivated to make those modifications and reasonably would have expected success because as Wharton discloses topical compositions comprising an antibiotic in combination with an aesthetic and sucralfate. In preparing such a composition, one would have a composition that would not only prevent infection in the skin wound

because of the antibiotic but would make the wound less painful due to the inclusion of the anesthetic in the composition.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Nissa M. Westerberg whose telephone number is (571)270-3532. The examiner can normally be reached on M - F, 8 a.m. - 4 p.m. ET. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Michael G. Hartley can be reached on (571) 272-0616. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Jake M. Vu/

Examiner, Art Unit 1618

NMW